

SEQUENCE LISTING

<110> Pan, Shuchong
Simari, Robert D.

<120> Isoforms of Brain Natriuretic Peptide

<130> 07039-409US1

<150> PCT/US2004/017554

<151> 2004-06-02

<150> US 60/480,460

<151> 2003-06-20

<160> 38

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<210> 1

<211> 33

<212> PRT

<213> Homo sapiens

<400> 1

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Asp	Thr	Val	Arg	Val	Thr	Leu	Gly	Phe	Val	Val	Ser	Gly	Asn	His	Thr
			20					25					30		
Leu															

<210> 2

<211> 14

<212> PRT

<213> Homo sapiens

<400> 2

Val	Val	Gln	Lys	Glu	Asn	Gln	Thr	Phe	Pro	Pro	Gly	Phe	Leu
1			5					10					

<210> 3

<211> 162

<212> PRT

<213> Homo sapiens

<400> 3

Met	Asp	Pro	Gln	Thr	Ala	Pro	Ser	Arg	Ala	Leu	Leu	Leu	Leu	Leu	Phe
1				5				10					15		
Leu	His	Leu	Ala	Phe	Leu	Gly	Gly	Arg	Ser	His	Pro	Leu	Gly	Ser	Pro
			20					25					30		
Gly	Ser	Ala	Ser	Asp	Leu	Glu	Thr	Ser	Gly	Leu	Gln	Glu	Gln	Arg	Asn
		35					40					45			
His	Leu	Gln	Gly	Lys	Leu	Ser	Glu	Leu	Gln	Val	Glu	Gln	Thr	Ser	Leu
	50					55						60			

Glu Pro Leu Gln Glu Ser Pro Arg Pro Thr Gly Val Trp Lys Ser Arg
 65 70 75 80
 Glu Val Ala Thr Glu Gly Ile Arg Gly His Arg Lys Met Val Leu Tyr
 85 90 95
 Thr Leu Arg Ala Pro Arg Ser Pro Lys Met Val Gln Gly Ser Gly Cys
 100 105 110
 Phe Gly Arg Lys Met Asp Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys
 115 120 125
 Lys Gly Lys His Pro Leu Pro Pro Arg Pro Pro Ser Pro Ile Pro Val
 130 135 140
 Cys Asp Thr Val Arg Val Thr Leu Gly Phe Val Val Ser Gly Asn His
 145 150 155 160
 Thr Leu

<210> 4
 <211> 143
 <212> PRT
 <213> Homo sapiens

<400> 4
 Met Asp Pro Gln Thr Ala Pro Ser Arg Ala Leu Leu Leu Leu Leu Phe
 1 5 10 15
 Leu His Leu Ala Phe Leu Gly Gly Arg Ser His Pro Leu Gly Ser Pro
 20 25 30
 Gly Ser Ala Ser Asp Leu Glu Thr Ser Gly Leu Gln Glu Gln Arg Asn
 35 40 45
 His Leu Gln Gly Lys Leu Ser Glu Leu Gln Val Glu Gln Thr Ser Leu
 50 55 60
 Glu Pro Leu Gln Glu Ser Pro Arg Pro Thr Gly Val Trp Lys Ser Arg
 65 70 75 80
 Glu Val Ala Thr Glu Gly Ile Arg Gly His Arg Lys Met Val Leu Tyr
 85 90 95
 Thr Leu Arg Ala Pro Arg Ser Pro Lys Met Val Gln Gly Ser Gly Cys
 100 105 110
 Phe Gly Arg Lys Met Asp Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys
 115 120 125
 Lys Val Val Gln Lys Glu Asn Gln Thr Phe Pro Pro Gly Phe Leu
 130 135 140

<210> 5
 <211> 489
 <212> DNA
 <213> Homo sapiens

<400> 5
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 ttcttgggag gtcgttccca cccgctgggc agccccggtt cagcctcgga cttggaaacg 120
 tccgggttac aggagcagcg caaccatttg cagggcaaac tgtcggagct gcaggtggag 180
 cagacatccc tggagcccct ccaggagagc ccccgctcca caggtgtctg gaagtcccgg 240
 gaggtagcca ccgagggcat ccgtgggcac cgcaaaatgg tcctctacac cctgcgggca 300
 ccacgaagcc ccaagatggt gcaagggtct ggctgctttg ggaggaagat ggaccggatc 360
 agtctctcca gtggcctggg ctgcaaaggt aagcaccccc tgccaccccg gccgccttcc 420
 cccattccag tgtgtgacac tgttagagtc actttggggt ttgttgtctc tgggaaccac 480
 actctttga 489

<210> 6

<211> 432
 <212> DNA
 <213> Homo sapiens

<400> 6
 atggatcccc agacagcacc ttccccgggcg ctctctgctcc tgctcttctt gcattctggct 60
 ttctctgggag gtcgttccca cccgctgggc agccccggtt cagcctcgga cttggaaacg 120
 tccgggttac aggagcagcg caaccatttg caggggcaaac tgcggagct gcagggtggag 180
 cagacatccc tggagcccct ccaggagagc ccccgctcca cagggtgtctg gaagtcccgg 240
 gaggtagcca ccgagggcat ccgtggggcac cgcaaaatgg tcctctacac cctgcgggca 300
 ccacgaagcc ccaagatggt gcaaggtct ggctgctttg ggaggaagat ggaccggatc 360
 agctctcca gtggcctggg ctgcaaagtg gtgcagaaag agaaccaaac atttctctct 420
 ggtttctct aa 432

<210> 7
 <211> 44
 <212> PRT
 <213> Pongo pygmaeus

<400> 7
 Gly Glu His Pro Leu Pro Pro Arg Leu Pro Ala Pro Ile Pro Val Cys
 1 5 10 15
 Asp Thr Val Arg Val Thr Leu Gly Phe Val Val Ser Gly Asn His Thr
 20 25 30
 Leu Arg Lys Cys His Leu Asp Ile Thr Ser Ser Cys
 35 40

<210> 8
 <211> 58
 <212> PRT
 <213> Sus scrofa

<400> 8
 Gly Glu His Pro Pro Pro Phe Pro Leu His Ala Pro Val Ser Ile Thr
 1 5 10 15
 Ser Gly Phe Asp Val Ser Gly Asp Gln Thr Pro Arg Lys Gly His Leu
 20 25 30
 Asp Ile Thr Leu Ser Cys Cys Gln Ser Ser Arg Pro Arg Ser Ala Phe
 35 40 45
 Leu Glu Lys Leu Asn Leu Asp Ser Ile His
 50 55

<210> 9
 <211> 33
 <212> PRT
 <213> Pan troglodytes

<400> 9
 Gly Glu His Pro Leu Pro Pro Arg Pro Pro Ser Pro Ile Pro Val Cys
 1 5 10 15
 Asp Thr Val Arg Val Thr Leu Gly Phe Val Val Ser Gly Asn His Thr
 20 25 30
 Leu

<210> 10
 <211> 78

<212> PRT
<213> Ovis aries

<400> 10															
Gly	Glu	Arg	Leu	Ser	Ala	Phe	Pro	Leu	His	Ile	Thr	Ile	Arg	Ala	Thr
1				5					10					15	
Ser	Gly	Ser	Asp	Val	Ser	Gly	Asp	Gln	Ile	Leu	Asn	Lys	Glu	His	His
			20					25					30		
Ser	Ser	Leu	Leu	Ala	Val	Leu	Arg	Ala	Lys	Ala	Cys	Leu	Ser	Gly	Asn
		35					40					45			
Ile	Lys	Phe	Gly	Gln	His	Ser	Leu	Ser	Cys	Leu	Gly	Ala	Pro	Ser	Ile
	50					55				60					
His	Leu	Leu	Pro	Leu	Thr	Glu	Arg	Gly	Arg	Ile	Phe	Arg	Met		
65					70					75					

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<210> 11
<211> 26
<212> PRT
<213> Mus musculus
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<400> 11
Gly Glu His Leu Pro Cys His Phe Pro Ala Lys Leu His Thr His Pro
  1                      5              10              15
Ile Pro Val His Ala Thr Leu Arg Gly Pro
      20              25

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<210> 12
<211> 33
<212> PRT
<213> Gorilla gorilla
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<400> 12
Gly Glu His Pro Leu Pro Pro Arg Pro Pro Ser Pro Ile Pro Val Cys
 1          5          10          15
Asp Thr Val Arg Val Thr Leu Gly Phe Val Val Ser Gly Asn His Thr
 20          25          30
Leu

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<210> 13
<211> 86
<212> PRT
<213> Felis catus
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<400> 13
Gly Lys Pro Pro Pro Cys Gln Leu Asp Pro Pro Ala Pro Leu Leu Trp
 1          5          10          15
Val Pro Pro Ser Glu Pro Leu Leu Gly Leu Leu Ser Leu Gly Thr Asn
          20          25          30
Ser Glu Lys Lys Thr Leu Gly Leu Tyr Ser Leu Leu Leu Thr Val Leu
          35          40          45
Lys Ala Lys Gly Arg Leu Ser Gly Asn Ile Lys Cys Gly His His Ser
          50          55          60
Leu Leu Cys Pro Pro Arg Val Thr His Leu Leu Leu Pro Leu Trp Pro
65          70          75          80
Lys Gly Ala Glu Ser Pro
          85

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<210> 14
 <211> 169
 <212> PRT
 <213> *Canis familiaris*

<400> 14
 Met Glu Pro Cys Ala Ala Leu Pro Arg Ala Leu Leu Leu Leu Leu Phe
 1 5 10 15
 Leu His Leu Ser Pro Leu Gly Gly Arg Pro His Pro Leu Gly Gly Arg
 20 25 30
 Ser Pro Thr Ser Glu Ala Ser Glu Ala Ser Glu Ala Ser Gly Leu Trp
 35 40 45
 Ala Val Gln Glu Leu Leu Gly Arg Leu Lys Asp Ala Val Ser Glu Leu
 50 55 60
 Gln Ala Glu Gln Leu Ala Leu Glu Pro Leu His Arg Ser His Ser Pro
 65 70 75 80
 Ala Glu Ala Pro Glu Ala Gly Glu Glu Arg Pro Val Gly Val Leu Ala
 85 90 95
 Pro His Asp Ser Val Leu Gln Ala Leu Arg Arg Leu Arg Ser Pro Lys
 100 105 110
 Met Met His Lys Ser Gly Cys Phe Gly Arg Arg Leu Asp Arg Ile Gly
 115 120 125
 Ser Leu Ser Gly Leu Gly Cys Asn Gly Lys Pro Pro Pro Cys His Leu
 130 135 140
 Gly Ser Pro Ser Pro Ala Pro Trp Val Arg Pro Leu Glu Pro Leu Leu
 145 150 155 160
 Gly Leu Leu Ser Arg Gly Ile Thr Leu
 165

<210> 15
 <211> 15
 <212> PRT
 <213> *Dendroaspis angusticeps*

<400> 15
 Pro Ser Leu Arg Asp Pro Arg Pro Asn Ala Pro Ser Thr Ser Ala
 1 5 10 15

<210> 16
 <211> 32
 <212> PRT
 <213> *Homo sapiens*

<400> 16
 Ser Pro Lys Met Val Gln Gly Ser Gly Cys Phe Gly Arg Lys Met Asp
 1 5 10 15
 Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys Lys Val Leu Arg Arg His
 20 25 30

<210> 17
 <211> 41
 <212> PRT
 <213> *Dendroaspis angusticeps*

<400> 17
 Glu Val Lys Tyr Asp Pro Cys Phe Gly His Lys Ile Asp Arg Ile Asn

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      1             5             10             15
His Val Ser Asn Leu Gly Cys Pro Ser Leu Arg Asp Pro Arg Pro Asn
      20             25             30
Ala Pro Ser Thr Ser Ala Asp Asn Pro
      35             40

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<210> 18
 <211> 28
 <212> PRT
 <213> Homo sapiens

```

<400> 18
Ser Leu Arg Arg Ser Ser Cys Phe Gly Gly Arg Met Asp Arg Ile Gly
  1             5             10             15
Ala Gln Ser Gly Leu Gly Cys Asn Ser Phe Arg Tyr
      20             25

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<210> 19
 <211> 22
 <212> PRT
 <213> Homo sapiens

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<400> 19
Gly Leu Ser Lys Gly Cys Phe Gly Leu Lys Leu Asp Arg Ile Gly Ser
  1             5             10             15
Met Ser Gly Leu Gly Cys
      20

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<210> 20
 <211> 34
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> polypeptide

<221> VARIANT
 <222> 2
 <223> Xaa = Glu or Lys

<221> VARIANT
 <222> 3
 <223> Xaa = Pro, His, or Arg

<221> VARIANT
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 <223> Xaa = Pro or Leu

<221> VARIANT
 <222> 5
 <223> Xaa = Pro, Leu, or Ser

<221> VARIANT
 <222> 6
 <223> Xaa = Cys or Pro

<221> VARIANT
<222> 7
<223> Xaa = Pro, His, Gln, or Arg

<221> VARIANT
<222> 8
<223> Xaa = Arg, Phe, or Leu

<221> VARIANT
<222> 9
<223> Xaa = Asp, Gly, or absent

<221> VARIANT
<222> 10
<223> Xaa = Ser, Pro, or Leu

<221> VARIANT
<222> 11
<223> Xaa = Pro or absent

<221> VARIANT
<222> 12
<223> Xaa = Ser, Ala, or absent

<221> VARIANT
<222> 13
<223> Xaa = Pro or Ala

<221> VARIANT
<222> 14
<223> Xaa = Ala, Phe, Ile, or Leu

<221> VARIANT
<222> 15
<223> Xaa = Pro, Lys, or Leu

<221> VARIANT
<222> 16
<223> Xaa = Val, Leu, or Trp

<221> VARIANT
<222> 17
<223> Xaa = Cys, His, or Val

<221> VARIANT
<222> 18
<223> Xaa = Asp, Ala, Ile, Thr, Pro, or Arg

<221> VARIANT
<222> 19
<223> Xaa = Thr, Pro, or His

<221> VARIANT
<222> 20
<223> Xaa = Val, Ile, Pro, Val, Ser, or Leu

Xaa Xaa

<210> 21
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 21
 agacatggat cccagacag 20

<210> 22
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 22
 caagaggaag cgatgtccag 20

<210> 23
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 23
 ttctctccag cgacatggag 20

<210> 24
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 24
 ggactctttc tgctccaagg 20

<210> 25
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 25
 agacatggat cccagacag 20

<210> 26
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 26
 tttctgcacc actttgcagc 20

<210> 27
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 27
 gagtcaacgg atttggtcgt 20

<210> 28
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 28
 ttgattttgg agggatctcg 20

<210> 29
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 29
 cttcttgcat ctggctttcc 20

<210> 30
 <211> 19
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 30
 agggatgtct gctccacct 19

<210> 31

<211> 21
 <212> DNA
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<220>
 <223> Primer

<400> 31
 ggacatcgct tcctctttgt t

21

<210> 32
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 32
 gaaggtattg tgggcatggt

20

<210> 33
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 33
 tccacaggt ggtctggaag t

21

<210> 34
 <211> 19
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 34
 ttctgcacca ctttgcagc

19

<210> 35
 <211> 41
 <212> PRT
 <213> Homo sapiens

<400> 35
 Ser Pro Lys Met Val Gln Gly Ser Gly Cys Phe Gly Arg Lys Met Asp
 1 5 10 15
 Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys Lys Val Val Gln Lys Glu
 20 25 30
 Asn Gln Thr Phe Pro Pro Gly Phe Leu
 35 40

<210> 36

<211> 60
 <212> PRT
 <213> Homo sapiens

<400> 36
 Ser Pro Lys Met Val Gln Gly Ser Gly Cys Phe Gly Arg Lys Met Asp
 1 5 10 15
 Arg Ile Ser Ser Ser Gly Leu Gly Cys Lys Gly Lys His Pro Leu
 20 25 30
 Pro Pro Arg Pro Pro Ser Pro Ile Pro Val Cys Asp Thr Val Arg Val
 35 40 45
 Thr Leu Gly Phe Val Val Ser Gly Asn His Thr Leu
 50 55 60

<210> 37
 <211> 32
 <212> PRT
 <213> Canis familiaris

<400> 37
 Gly Lys Pro Pro Pro Cys Arg Leu Gly Ser Pro Ser Pro Ala Pro Trp
 1 5 10 15
 Val Arg Pro Leu Glu Pro Leu Leu Gly Leu Leu Ser Arg Gly Ile Thr
 20 25 30

<210> 38
 <211> 510
 <212> DNA
 <213> Canis familiaris

<400> 38
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 gcctcgggaag cctcgggggt gtggggcgtg caggagctgc tgggcccgtc gaaggacgca 180
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 gcagaagccc cggaggccgg ggaggaacgc cccgtggggg tccttgccacc ccatgacagt 300
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 ggccggaggc tggaccggat cggctccctc agtggcctgg gctgcaatgg taagccgcct 420
 ccctgccacc ttggctcccc ctccccagcc cctggggttc gacccttgga accccttctg 480
 ggtttgttgt ctgggggat cacactctga 510